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ABSTRACT

A study investigated whether adolescents' schemas about contraceptive use would influence their perceptions that a soap opera couple used birth control during sex. The study also examined the effects of increasing explicitness of characters' conversations about contraceptives on viewers' perceptions of the couple's contraceptive use. Thirty-six white girls and 36 white boys in North Carolina between the ages of 13 and 18 participated in this study. Results indicated that both personal intentions to use birth control and the belief that most couples use birth control made adolescent viewers more likely to agree that the television couple used birth control. Viewers who watched a version in which contraception was not discussed were less likely to believe the couple used contraceptives than were those who watched "generic" or "explicit" discussion versions. Findings suggest the possibilities for using media messages to educate adolescents about health concerns. (Two tables of data are included; 46 references are attached.) (PRA)

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Adolescents' Interpretations of the Birth Control Behavior of a Soap Opera Couple

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Most previous studies of the effects of watching television's sexual content on adolescent's sexual attitudes and behaviors have been based on an assumption that the sexual messages adolescents hear in any television program are not affected by viewers' pre-existing sexual beliefs. This study investigated whether adolescents' schemas about contraceptive use would influence their perceptions that a soap opera couple used birth control during sex. The study also examined the effects of increasing explicitness of characters' conversations about contraceptives on viewers' perceptions of the couple's contraceptive use. The results showed that both personal intentions to use birth control and the belief that most couples use birth control made adolescent viewers more likely to agree that the television couple used birth control. Viewers who watched a version in which contraception was not discussed were less likely to believe the couple used contraceptives than were those who watched "generic" or "explicit" discussion versions.

Adolescents' Interpretations of the Birth Control Behavior of a Soap Opera Couple

According to a recent study by the Alan Guttmacher Institute, the United States has the highest rates of unintended adolescent pregnancy and childbearing of any industrialized Western country. The study concludes that

> (i)n general, American teenagers seem to have inherited the worst of all possible worlds insofar as their exposure to messages about sex are concerned: movies, music, radio, and television tell them that nonmarital sex is romantic, exciting, and titillating. . . Little that teenagers see or hear about sex informs them about contraception or the consequences of sexual activity (Jones, et al., 1986, p. 239.

As the preceding passage shows, television and other media often receive a share of the blame for American adolescents' involvement in sexual activity and failure to use any methods that could protect them from unwanted pregnancies or sexually transmitted diseases. That blame is bolstered by a number of studies that have shown that watching sexual content in television programs can affect adolescents' beliefs about and attitudes toward extramarital sexual intercourse, sexual violence and sexual enjoyment. (See Brown, Walsh-Childers & Waszak, 1990, for a comprehensive review of these studies.)

Virtually all previous studies of television's sexual content and the effects of those studies on adolescent viewers share one problem, however; the "sexual content" described or analyzed in those studies has been defined within the context of adult researchers' knowledge of and beliefs about sexuality.

Thus, the assumption has been not only that adolescents would see and hear the same types of sexual messages in a given television program or scene as those identified by adult researchers, but also that the sexual messages adolescent viewers receive would not vary across race, gender or age-based subgroups and would not be affected by viewers' pre-existing sexual attitudes or beliefs. That assumption must be tested, however, if we are to understand fully how media messages about sexuality influence adolescents' sexual attitudes and behaviors. It is particularly important that we understand the relationship between pre-existing beliefs and

interpretation of media messages before we try to develop media campaigns or programs that will encourage responsible sexual behavior.

The study discussed in this paper was designed, therefore, to determine whether such factors as gender and prior beliefs about sexual relationships influenced adolescent viewers' interpretations of the male-female relationships portrayed in a television program. This paper deals with one specific aspect of those interpretations -- whether adolescents' beliefs about birth control use in general influence their interpretations of the birth control behavior of a television couple.

Adolescent sexual behavior and contraceptive use

Each year in the United States, more than one million adolescent girls experience unintended pregnancies (Jones, et al., 1986). The financial and social costs of these unintended pregnancies is staggering: teenager mothers are more likely to drop out of school, less likely to find stable and well-paid jobs, less likely to enter stable marriages and more likely to become long-term dependents on public assistance programs (Furstenberg, Brooks-Gunn, & Chase-Lansdale, 1989). In 1986, the United States government spent $16.65 billion on families that resulted from adolescent pregnancies.

Although less is known about the effects of adolescent pregnancies on teenage fathers, studies have shown that boys who father children during their teen years are more likely to drop out of school, whether or not they marry the baby's mother (Furstenberg, et al., 1989).

Although the rates of adolescent pregnancy and childbearing, particularly among younger teenagers, are higher in the United States than in other industrialized Western countries, Jones, et al. (1986) conclude that the higher U.S. rates cannot be explained by greater prevalence of sexual activity among American teenagers. Rather, the primary reason for higher adolescent pregnancy rates in the United States is the failure of sexually active American teenagers to use contraceptives.

There are a number of explanations for American adolescents' less frequent and less consistent use of birth control. Teenagers themselves tend to report not using a birth control method at first intercourse because they did not expect to have sex, believed they did not need a birth control method, did not want to or did not think about using contraceptives or because no birth control methods were available (Zelnik & Shah, 1983). Even after their first intercourse experience, many American teenagers delay obtaining a birth control method because they have mixed feelings about their sexual activity and/or the use of contraceptives or because they fear their parents will find out that they are sexually active (Zabin & Clark, 1981).

Jones et al. (1986) argue that both the lack of knowledge about contraceptives and fears that parents will find out about the adolescent's sexual activity point to flaws in the American system of delivering contraceptive services to the adolescent population. In addition, however, many researchers contend that American society sends teenagers mixed messages about sexuality and the use of birth control. The American media, particularly network television programs, frequently rank high on the list of those held responsible for adolescents' confusion about appropriate sexual and contraceptive behavior (Hayes, 1987; Roberts, 1982; Strasburger, 1985, 1989; Strouse & Fabes, 1985).

Television's sexual content and effects

Over the past 15 years, analyses of the sexual content of television programs have described a strikingly consistent pattern. On television, sex is portrayed almost exclusively as an activity for young, unmarried partners in casual or uncommitted relationships (Fernandez-Collado, Greenberg & Korzenny, 1978; Greenbert, Abelman & Neuendorf, 1981; Greenberg & D'Alessio, 1985; Greenberg, Graef, Fernandez-Collado, et al., 1980; Lowry & Towles, 1989; Roberts, 1982).

Most of the earlier studies of sexual content seem to have ignored the issue of portrayals or mentions of contraceptive use, but more recent research indicates that television characters

rarely use birth control methods during intercourse. For instance, in their analysis of a sample of 1987 afternoon "daytime dramas" or "soap operas," Lowry and Towles (1989) found no verbal, implied or visually depicted mentions of efforts to prevent either pregnancy or sexually transmitted diseases. Another study, which included both soap operas and prime-time programming from the 1987-1988 season, similarly produced no mention of the use of birth control methods throughout the entire sample of 232 half-hour segments from 129 shows, although references to sexual intercourse appeared, on average, at a rate of two per hour of programming (Louis Harris & Associates, 1987).

Although no studies have dealt specifically with the effects of television viewing on adolescents' beliefs about or use of birth control methods, there is evidence that for some adolescents, television is an important and trusted source of information about sexual activity, contraception and pregnancy. A 1986 poll of American teenagers showed that teens ranked television fourth -- behind parents, peers and school -- as a source of information about sex and birth control. The majority of teens interviewed said television either ignores or presents an inaccurate picture of sex and birth control, but significant minorities said television presents a realistic picture of family planning. The acceptance of television's version of sexual reality was most common among adolescents most in need of reliable information -- young teens, those who had not had school sex education classes and those whose parents were not college graduates and were therefore less likely to have talked to them about sex (Louis Harris, 1986). In addition, studies have shown that watching television can influence adolescents' beliefs about sexual attractiveness (Kenrick & Gutierres, 1980), extramarital intercourse (Zillman & Bryant, in press; Greeson & Williams, 1986), sexual violence (Zillman & Bryant, 1982; Linz, Donnerstein, & Penrod, 1988) and sexual enjoyment (Baran, 1976). One study comparing pregnant teenagers with girls who had never been pregnant showed that 70 percent of the pregnant teenagers, compared to 33 percent of the never-pregnant teens, agreed that TV's portrayal of adult sexual

relationships was similar to real-life relationships. That study also showed that the girls who said their favorite TV character would not use birth control if he or she were having premarital sex were 2.4 times as likely to be pregnant (TV Viewer, 1980).

Two studies have provided evidence that teens whose television-viewing patterns include higher percentages of "sexy" programs may be more likely to be sexually active (Brown & Newcomer, in press; Peterson, Moore, & Furstenberg, in press).

Schema theory and interpretations of TV

As noted earlier, one problem with most previous studies of television's portrayal of sexuality and the effects of adolescents' exposure to those portrayals is that the studies have been based on a sender-centered view of the mass media. From this perspective, media messages are essentially uniform across program genres, audiences and viewing contexts. Adolescent audiences are expected to interpret and respond to sexual content (so defined by adult researchers) in essentially the same ways regardless of differences in their levels of sexual knowledge and experience or in their attitudes toward sexual relationships, including the use of birth control.

In the past decade, however, researchers' thinking about the message-audience relationship has undergone an important shift, which Dervin (1983) has characterized as a change from a view of information (mass-mediated or otherwise) as an "observer construct" to a "user construct" of information. The "user construct" defines information not as a brick to be placed by the sender into the "empty bucket" of the human mind, but rather as clay, "moved and shaped in unique ways by each perceiver" (Dervin, 1983, p. 169). Audience members are believed to actively construct their own meanings from media information -- meanings that may differ substantially from what the sender intended or from meanings derived by other audience members; this individualization of message interpretation may help to explain the difficulty researchers have had in isolating the effects of media messages (Dervin, 1983; Dorr, 1986).

The idea that viewers actively construct meanings from media stimuli is consistent with social-cognitive theorists' assumptions that schemas -- organized sets of knowledge and attitudes about some specific domain of reality -- guide individuals' thinking about and interpretations of all incoming information. The primary function of schemas, according to Taylor and Crocker (1981), is to allow individuals to process information efficiently. Rather than attempting to compare a given stimulus configuration -- whether in real life or in the mass media -- against all prior experiences to find the best match, using schemas enables the perceiver

> to identify stimuli quickly, "chunk" an appropriate unit, fill in information missing from the stimulus configuration, and select a strategy for obtaining further information, solving a problem or reaching a goal (Taylor & Crocker, 1981, p. 93-94).

These functions can be divided into two categories -- encoding and representation of incoming information and making inferences about and interpreting information. Schemas influence the encoding of information through the imposition of the schema's structure on the elements present in the stimulus to which the schema has been matched. An important result is that this structure determines what pieces of information from the stimulus will be encoded into memory and therefore available for later retrieval (Taylor & Crocker, 1981). One study, for instance, showed that subjects who watched a videotape of two people in an apartment remembered different details of the actors' behavior depending on whether they had been told the pair were trying to burgle the apartment, looking for illegal drugs they needed to find and remove or simply waiting for a friend (Zadny & Gerard, 1974).

The second category of schema functions (which is more important for this study) is the influence of schemas on the interpretation of new information. Schema content, including both objective knowledge and subjective beliefs or attitudes about the schema subject, influences interpretations of any new schema-related information or experience by providing a specific pool of information with which the individual can fill in gaps in the stimulus configuration. The schema may direct the perceiver to search for schema-consistent information that is not

immediately apparent or may fill in missing information with a "default option" (Minsky, 1975) or best guess as to what the missing piece of information should be. For instance, a person asked to list the activities shown in a videotape of a woman getting ready for work in the morning is likely to recall that the woman brushed her teeth, even if the tape did not show that activity. Finally, the perceiver may insert default options from his or her schema even when the true answer is available, if there is too much other information for all of it to be processed.

Research has provided ample evidence that the content of schemas influence the way an individual perceives a given real-life or mass-mediated stimulus configuration through the replacement of missing or ambiguous information with default options (Black, Galambos & Read, 1984; Cantor & Mischel, 1977; Jones & Nisbett, 1971; Markus & Smith, 1981; Rice, 1980; Taylor & Crocker, 1981).

Several previous studies, though not specifically based in schema theory, have provided evidence that comprehension, enjoyment and interpretations of sexual content in the media vary according to adolescents' sexual maturity, gender and cultural backgrounds -- all factors likely to affect their sexual schemas (Greenberg, Linsangan, Soderman & Heeter, 1988; Silverman & Sprafkin, 1980). For instance, Brown and Schulze (1990) found that, among college students, whites were more likely than blacks and girls more likely than boys to interpret the Madonna music video "Papa Don't Preach" as being about adolescent pregnancy; identification of the theme as teen pregnancy was almost four times as common among white females as among black males, who were most likely to say the video concerned the girl's relationships with her father and boyfriend. In addition, Kalof (1989) found that females were more likely than males to describe the main female character in Michael Jackson's music video "The Way You Make Me Feel," as vulnerable and scared or as controlled and powerful, while males were more likely to say the woman was a sexual tease or playing "hard-to-get."

One schema-based study of interpretations of television content has shown that college students' marital schemata influenced their judgments about the marital satisfaction of television

couples. The authors conclude that the study results support the argument that television content is processed in much the same way as other types of information (Perse, Pavitt & Burggraf, 1990).

That does not necessarily mean, however, that adolescents cannot differentiate between real life and what is portrayed as real life in television programs. As mentioned earlier, significant minorities of the teenagers interviewed in the Planned Parenthood poll said television presented realistic pictures of pregnancy and the consequences of sex (41 percent) and family planning (28 percent). However, the majority of teenagers reported that television either presented an exaggerated picture of family planning (14 percent) or didn't deal with the topic at all (44 percent) (Louis Harris, 1986).

A study by Truglio (1990) also shows that adolescents differentiate between television portrayals of sexuality and real-life sexual behavior. Adolescents in this study reported for instance, that a couple meeting for the first time and having sex was more likely to occur on TV than in real life. Events more likely to occur in real life than on television included a man or woman getting a sexually transmitted disease, a woman who did not use birth control getting pregnant and couples using a birth control method to prevent pregnancy. Truglio also found, however, that girls who were heavy TV viewers believed that real-life couples use birth control less frequently than those on TV.

Understanding interpretations of TV

Understanding the influence of adolescents' sex and birth control schemas on their interpretations of television (and other media) content is important for two reasons. First, if the messages adolescents receive from television content are influenced by their pre-existing schemas for topics related to that content, as schema theory suggests they will be, that may help to explain why researchers have had difficulty documenting effects of watching sexual content on adolescents' sexual behavior. Since adolescents' sexual schemas will differ, the sexual

content they "see" also will differ and should be expected to affect them in different ways. Thus, understanding how sexual schemas influence the interpretation of television content may help researchers predict which adolescents are most likely to be affected negatively by watching programs that, for instance, show couples having (implied) sexual intercourse without using a birth control method.

Second, the experiences of family planning promoters in other countries have shown that the media can be used to improve adults' attitudes toward and use of contraceptives. In Mexico, for instance, a soap opera designed to promote family planning and broadcast during 1977-78 helped produce a 32 percent increase in the number of Mexicans who visited family planning clinics to obtain contraceptives. In Jamaica, a radio soap opera, "Naseberry Street," also has helped convince listeners to adopt family planning methods (Singhal & Rogers, 1989). A rock music song and video, "Cuando Estemos Juntos," ("When We Are Together"), produced by the Johns Hopkins University Population Communication Services to promote sexual abstinence among teenagers, produced an estimated one million hours of free radio and television time for teen contraception program public service announcements. In addition, the song, recorded by Tatiana and Johnny, two teenage Latin American singers,

> encouraged teenagers to talk more freely about teenage sex, reinforced teenagers who already had decided to use restraint, sensitized young viewers to the importance of the topic, and disseminated information about contraception (Singhal & Rogers, 1989, p. 347).

The point is that television messages promoting sexual responsibility -- either in separate public service announcements or embedded in entertainment programming -- could be an effective way of helping adolescents learn about how to obtain contraceptives and encouraging them to do so if they are or expect to become sexually active. For teenagers who receive no sex education from parents or the schools, mass media may be the only way of providing them with accurate and useful information about sexuality. However, before mass media can be used

effectively in sexuality education efforts, our knowledge of the ways in which adolescents interpret sexual content in television programs must be clearer.

This study was designed, in part, to determine whether or not adolescents' schemas about the use of birth control would influence their interpretations of the contraceptive behavior of a television couple. The study was intended to test the following hypotheses:

> **Hypothesis 1:** Adolescents whose schemas for sexual intercourse include the use of contraceptives will be more likely to believe that a television couple used birth control during sexual intercourse than will adolescents whose schemas contatin no sexual intercourse-contraception link.
>
> **Hypothesis 2:** Adolescents who watch a television program containing more explicit discussions of contraceptives will be more likely to believe a television couple used birth control during sexual intercourse than will adolescents who watched programs containing less explicit or no discussions of contraceptives.

Methods

Study participants and procedures

The participants were 36 white girls and 36 white boys 13-18 years old. The average age of the participants was 15.04 years. Boys were slightly older than girls (15.22 years compared to 14.86 years), but the difference was not statistically significant. Participants were recruited through personal contacts, fliers and newspaper advertisements and paid $6 for their participation. All participants came from urban-to-suburban North Carolina counties. Although data about their family income was not collected, the demographic characteristics of the area suggest that most participants were from middle-class, well-educated families.

In the study sessions, participants first completed a self-administered, computerized questionnaire that included demographic information, questions about their experiences with sexual activity, including birth control use and pregnancy, and measures of their attitudes toward premarital sexual activity, including the use of birth control, and male-female relationships. The computerized format was chosen because it allowed the author to set up the questionnaire programming so that teenagers who had never had a physical relationship with a person of the

opposite sex would not see or need to respond to questions about various sexual behaviors in which they might have engaged; this screening procedure was expected to ease parental fears about the effects of participating in the study and make parental permission easier to obtain. In addition, the computerized format was expected to encourage the participants to give candid responses to sensitive questions about sexual behavior, birth control use and pregnancy experiences (Papemy, Aono, Lehman, Hammar, & Risser, 1990).

After completing the first set of computerized questions, the group watched one of three randomly chosen versions of a 12- to 14-minute, soap-opera-style program called "Academic Affairs." The program, produced during the summer of 1988 with funding from the Center for Population Options and set on the University of North Carolina at Chapel Hill campus, concerns the problems and relationships of college students.

The main story line was about a young couple, Jordan and Aaron, who were considering having sexual intercourse for the first time. In the first version of this story line, there is no mention whatsoever of birth control or contraceptives. In the second version, conversations between Jordan and her roommate, Aaron and his roommate, and Jordan and Aaron include non-specific references to "protection" or "protecting yourself," and in a drugstore scene, Aaron is shown picking up a package of condoms. In the third version, the conversations include discussion of specific contraceptive methods, including spermicidal foam, contraceptive sponges and condoms. The drugstore scene again shows Aaron buying condoms and also shows the clerk having to shout across the store to ask her manager what they should cost. In the final scene, Aaron and Jordan somewhat sheepishly show each other the birth control methods each has brought.

The second and third story lines remain the same across all three versions of "Academic Affairs." The second story line concerns a young sorority pledge, Jenna, who is flunking out of school. The final story line concerns two football players who are competing for the quarterback spot on the university's varsity team.

After watching the videotape, the participants completed the second half of the computerized questionnaire, which asked them to respond to a series of statements about the relationships between and actions taken by the characters in the soap opera.

Measures

Contraceptive Use Schemas

Respondents who reported having ever had sexual intercourse were asked how often they used a birth control during intercourse. This measure was not included in the analyses, however, because so few of the respondents (19) reported having had sexual intercourse at least once. Of those, only one had never used a birth control method.

Intentions to use birth control. All respondents, whether or not they had had sexual intercourse, were asked: "In the future, how likely do you think you would be to use a birth control method if you had sexual intercourse?" The respondents chose from five answer categories, indicating that they were certain they would use birth control, probably would use birth control, probably would not use birth control, were certain they would not use birth control or did not know. Those who indicated that they did not know were coded as missing for this variable (11 or 15.3 percent). The remaining categories were coded from 1 to 4, with increasing numbers reflecting stronger intentions to use birth control.

Beliefs about others' contraceptive use. All participants were asked to rate their agreement (on a five-point Likert-type scale) with the statement that "Most men and women use a birth control method when they have sex." This item was coded so that one indicated strong disagreement and five indicated strong agreement with the statement.

Television code schemas

Both theory and research suggest that regular television viewers and particularly those familiar with specific genres are better able to perceive and process cues that television producers use to imply that characters have certain characteristics or relationships with others

(Allen, 1985; Fiske & Hartley, 1978). Two television viewing measures were used to determine whether or not familiarity with television codes in general or soap opera codes in particular would affect subjects' judgments about whether the soap opera couple used birth control.

Weekly TV viewing. Each respondent indicated how much time he or she normally spent (during the school year) watching television each day "during the week (Monday through Thursday)," "on Fridays," and "each weekend day (Saturday or Sunday)." Answer options ranged from "0 hours" to "5 hours or more." An estimate of each respondent's total weekly TV viewing time was produced by multiplying the answer to the weekday question by four, multiplying the answer to the weekend question by two and adding those totals to the answer to the Friday question.

Soap opera viewing. Each respondent was asked to indicate whether, during an average week, he or she watched daytime and primetime soap operas "never," "1 or 2 days," "most days," or "every day." This item was coded so those who never watched had a score of 0 and those who watched every day had a score of 3.

Text content differences

Version. As noted above, the three versions of the soap opera varied in the extent of discussion of contraceptives. To determine whether these variations in content affected viewers' perceptions of the characters' birth control use, two dummy variables were created to represent the version watched. Version1 was coded 1 for viewers of Version 1 (in which there was no discussion of birth control) and 0 for viewers of Versions 2 (which contained "generic" mention of birth control) and 3 (which contained explicit discussions of birth control methods), and Version2 was coded 1 for viewers of Version 2 and 0 for viewers of Versions 1 and 3.

Control variables

Age. Age was used as a control variable since it was expected to be correlated with sexual and birth control experience and television viewing time, in addition to other potential

influences on birth control schemas (such as parental or school sex education) that were not measured.

Gender. Because research has shown that males and females' sexual schemas differ, gender was used as a control variable. The dummy variable was coded 0 for girls and 1 for boys.

Dependent variable

Contraceptive use perception. Participants also used a five-point scale to rate their agreement with the statement that, "If Aaron and Jordan had sex after her birthday dinner, they used some method of birth control." The variable was coded so that higher numbers indicated greater agreement that the couple had used a birth control method.

Analysis

Tests of each of the hypotheses involved running a series of hierarchical regressions. For the regression of the perception of contraceptive use variable, the measures of intentions to use contraceptives and beliefs about others' contraceptive use were entered in the first block. The second block consisted of the television viewing measures, and the third block contained the two dummy variables for version of the videotape, along with age and gender.

For the second set of regressions, variables that had probability levels less than .10 in the initial regressions were entered together in the first block. The remaining variables then were tested individually for their contribution to explaining variation in the dependent variable, using an F-test for incremental R^2-change. Only variables that contributed significantly to the explanation of variance were retained in the final model for each dependent variable.

Results

Table 1 shows comparisons by age and gender of participants' coital experience and their attitudes toward birth control use. There was a significant age and gender interaction in participants' reports of sexual intercourse experience, with age affecting the probability of non-virginity for girls only [$X^2_{(2\ df)} = 11.21$, $p. < .01$]. The likelihood of having had sex increased

with age among boys as well as girls, but the differences were not significant for boys. Overall, boys were more likely than girls to have had sex at least once.

Table 2 about here

As Table 1 shows, virtually all (91.8 percent) of the study participants said they probably or certainly would use a birth control method if they had sex, but there was a significant gender difference in the strength of their intentions [$X^2_{(3\ df)} = 11.714$, $p. < .01$], perhaps reflecting girls' understanding of their greater risk from unprotected intercourse. Among girls, 86.2 percent said they were certain they would use birth control, while only 46.9 of the boys expressed such certainty.

More than half of the adolescents said they thought most couples used birth control during sexual intercourse (11.1 percent strongly agreed, 48.6 percent agreed). However, nearly a third (29.2 percent) were neutral, and 11.1 percent disagreed with the statement. No one disagreed strongly (See Table 1).

Table 2 shows the regression coefficients (betas) and significance level for predictors of the contraceptive use perception variable after the final round of regressions.

Table 2 about here

Three variables -- beliefs about others' contraceptive use, intentions to use birth control in the future and the dummy variable discriminating Version 1 from Versions 2 and 3 -- were retained for the final regression model for this statement. As Table 1 shows, both contraceptive use schema measures also were significant, positive predictors of agreement that the soap opera couple used a birth control method if they had sex, thus providing support for Hypothesis 1.

Adolescents who expect most couples to use a birth control method during sex and/or who themselves intend to use a contraceptive method were more likely to predict that the soap opera couple would use a birth control method, even if no mention of birth control was made in the version of the soap opera they watched.

The table also shows, however, that by far the strongest predictor of perceptions of Aaron and Jordan's birth control use was the dummy variable distinguishing the "no discussion" version of the soap opera from those in which there was at least "generic" discussion, indicating that participants' perceptions of whether or not the couple used a birth control method were influenced by the presence of dialogue concerning birth control. Those who watched the versions containing either generic discussion of birth control (i.e., "protection") or explicit discussions mentioning specific methods were more likely to agree that Aaron and Jordan used birth control than were participants who watched the "no mention" version. The data provide some support, therefore, for Hypothesis 2.

The fact that the second dummy variable, distinguishing Version 2 viewers from Version 3 viewers, was not significant indicates that the explicitness of the discussion of contraceptive methods made no significant difference in the belief that the couple used birth control. In fact, an examination of mean agreement scores for the three versions (Version 1 = 3.58, Version 2 = 4.89, Version 3 = 4.68) shows that the greatest agreement was among those watching the "generic" discussion version, not the explicit discussion version, although a Tukey's HSD test showed that the difference between Version 2 and Version 3 agreement was not significant.

Conclusions and Discussion

As the high rates of unwanted teen pregnancies in the United States illustrate, adolescents who have enough sexual experience to equip them with more or less "adult" sexual schemas do not necessarily also have subschemas that link the use of birth control methods to sexual intercourse. Hypothesis 1 had predicted, therefore, that differences in these contraception

schemas would be reflected in differing perceptions of whether or not Aaron and Jordan used contraceptives. The results revealed the expected pattern: adolescents who believed that most men and women use contraceptives during sexual intercourse were more likely than those who disagreed with this statement to believe that Aaron and Jordan used birth control, and participants who were more certain of their own intentions to use contraceptives also were more likely to perceive the soap opera couple as using birth control.

The influence of adolescents' contraceptive schemas on their perceptions of the characters' birth control behavior was consistent across versions of the soap opera. However, the presence of birth control-related information or dialogue in the soap opera did affect participants' beliefs about whether or not Aaron and Jordan used birth control. Participants who watched Versions 2 or 3, in which birth control is mentioned at least in euphemism ("protection"), were more likely to conclude that Aaron and Jordan used a birth control method if they had sex. However, increasing the explicitness of the discussion did not lead to stronger agreement that the couple used birth control. In fact, as mentioned earlier, the strongest agreement was expressed by those who watched the "generic" version, in which characters referred only to "protection" or "protecting yourself."

This finding should be good news for organizations that might wish to use television public service announcements to encourage teenagers to use birth control, since it suggests that more explicit and potentially less palatable discussions of contraceptives may not be necessary -- at least, not for white, middle-class teenagers like those in the study. In Great Britain, mass media health education campaigns have proved successful in increasing teenagers' awareness of the availability of contraceptive services and in making the use of birth control methods more acceptable; these campaigns have been particularly important in providing information to young people who leave school early (Farrell, 1978). These campaigns haved been successful despite the fact that concerns about promoting promiscuity have forced the use of less explicitly worded messages (Bury, 1984).

Unfortunately, however, so far there is no evidence that the major television networks -- ABC, NBC or CBS -- or the majority of their affiliated stations would be willing to accept either public service announcements or manufacturers' advertisements promoting the use of birth control methods, especially among adolescents. Although all three networks have agreed to allow individual affiliates to accept condom commercials, all have staunchly refused to accept such commercials at the network level. In addition, the networks' instructions to affiliates clearly state that condom commercials mentioning the prevention of pregnancy are unacceptable. For instance, NBC's memo to its affiliates says that condom advertising must be "solely directed to the use of condoms for the purpose of reducing the risk of AIDS. . . " (Committee on Energy and Commerce, 1987).

During testimony before the House of Representatives Subcommittee on Health and the Environment, Alfred Schneider, then vice president for policy and standards for Capital Cities/ABC, Inc., said that one of the primary reasons ABC would not accept condom advertisements was that people knew that condoms also could be used to prevent pregnancy:

> Our position with respect to this issue is that while condoms may afford a measure of such protection against AIDS, it is impossible to separate this product use from the original and long standing use of the product, which is for birth control purposes. (Committee on Energy and Commerce, 1987).

The network ban on condom advertisements also has extended to include network refusal to run even non-explicit public service announcements encouraging teenagers to be sexually responsible. This refusal to allow either advertisements or PSAs persists despite survey results indicating that 78 percent of American adults believe there should be messages about birth control on television (Louis Harris, 1985).

Policy Implications and Further Research

Probably the most important conclusion to be drawn from this study is that adolescents -- even those of the same race and from relatively homogenous family backgrounds -- are not always a uniform audience for mass media messages. Adolescents differ in the context-relevant

experiences and attitudes they bring to the processing of mass media, and these experiences and attitudes sometimes influence the meanings they make of media messages. This finding highlights the need for formative and evaluative research on any mass-mediated message that is intended to influence adolescents' sexual knowledge, attitudes or behaviors. For public service campaigns to be effective, for instance, those developing the campaigns must test the messages with target group adolescents to see whether or not the messages are perceived as the campaigners intend.

This study shows that determining how watching sexual content on television will affect adolescents' sexual attitudes and behaviors is more complicated than simply counting the appearances of different types of sexual behaviors in television programs or tracking adolescents' reactions to a single instance or type of sexual content. Adolescents watching a given episode of any television program see not one story but many; which story an adolescent sees depends, at least to some extent, on the experiences and attitudes he or she brings to the viewing context.

The fact that adolescents' interpretations of television content differ does not, however, show that television viewing (or the use of other mass media) is unimportant in the development of teenagers' attitudes about sex and birth control. As noted earlier, at least one study has shown that among teenage girls, heavy viewers believed that real-life couples use birth control methods infrequently. By mid- to late adolescence, teenagers may have relatively firmly established schemas about birth control, and, as this study shows, those schemas may significantly influence their interpretations of birth-control related content in the television programs they watch. However, it also is true that earlier television viewing experiences may have contributed to the content of those birth control schemas, and this is particularly likely to be true for teenagers who have few other sources of information about birth control -- those who have not had comprehensive sex education classes at school and whose parents have not discussed birth control with them.

Despite the complications presented by the influences of pre-existing schemas on adolescents' interpretations of television sexuality, researchers must continue to try to determine how adolescents' environments may shape their interpretations of media and how the stories adolescents see on television are incorporated into their sexual schemas and scripts. Given that adolescents' sexual schemas almost certainly influence their involvement in such unhealthy outcomes as unwanted pregancies, sexually transmitted diseases and sexual violence, it is imperative that we continue to study the role that television and other media play in the development of those schemas. We also need to increase our understanding of the possibilities for using media messages -- either incorporated into entertainment programming or built into intentional campaigns -- to promote responsible sexual behavior among adolescents.

Table 1: Sexual experience and attitudes toward contraception by gender and age

	Girls				Boys			
Age (n)	13-14 (14)	15-16 (17)	17-18 (5)	Total (36)	13-14 (16)	15-16 (7)	17-18 (13)	Total (36)
				Percentages[+]				
Coital experience[a]* **								
Never	100.0	88.2	040.0	86.1	68.8	57.1	53.8	61.1
One or more times	000.0	11.8	060.0	13.9	31.3	42.9	46.2	38.9
Intentions to use birth control[a]*								
Certainly will not	000.0	06.3	000.0	03.4	08.3	00.0	00.0	03.1
Probably will not	000.0	06.3	000.0	03.4	08.3	14.3	00.0	06.3
Probably will	011.1	06.3	000.0	06.9	58.3	42.9	30.8	43.8
Certainly will	088.9	81.3	100.0	86.2	25.0	42.9	69.2	46.9
				Mean agreement scores[++]				
Belief that others use birth control[a]*	2.45	2.21	2.50	2.34	3.17	3.00	2.58	2.90

Note. [+]Differences tested using Chi-square test.
[++]Mean scores on a scale of 1-5, with 1 representing strong disagreement and 5 representing strong agreement with the statement "Most men and women use a birth control method when they have sex." Differences tested using the F-test for analysis of variance.

[a] = significant gender difference

*p. < .10, **p. < .05, ***p. < .01.

Table 2: Standardized regression coefficients (betas) for variables predicting agreement that a birth control method was used.

Independent variables	Aaron & Jordan used birth control during sex
Belief that others use birth control	.231**
Personal intentions to use birth control	.233**
Weekly TV viewing	----
Soap opera viewing	----
Gender[a]	----
Age	----
Version1[b]	-.563***
Version2	----
R^2	.372
F	15.004
df	3,68
p.	.0000

Note. [a]Gender is coded 1 for girls, 2 for boys.
[b]Version1 is a dummy variable coded 1 for Version 1 (in which there was no mention of contraceptives) and 0 for Versions 2 and 3. Version2 is another dummy variable coded 1 for Version 2 and 0 for Versions 1 and 3.

**p. < .05, ***p. < .01

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